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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,381	06/24/2003	Kenichi Hashizume	884A.0006.U1(US)	4723

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EXAMINER	
ABRAMOWITZ, HOWARD E	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/606,381	HASHIZUME ET AL.	
	Examiner	Art Unit	
	Howard E. Abramowitz	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *20-41* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☒ Claim(s) *3* is/are objected to.

8)☒ Claim(s) *1-41* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/31/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-19, drawn to a method of forming patterns, classified in class 427, subclass 96.

II. Claims 20-36, drawn to a patterned article, classified in class 428, subclass 209.

III. Claims 37-41, drawn to an apparatus, classified in class 29, subclass 33R.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)).. In the instant case the product as claimed can be made by a different process such as placing the seeding layer on a metal foil then laminating the seeding layer and metal foil onto the article.

3. Inventions III and I are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this

case the product can be made by continuously or intermittently roll coating the seeding material and the metallic foil onto the substrate.

4. Inventions III and II are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a materially different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this case the product as claimed can be formed from another materially different apparatus such as an apparatus that would be used in the laminating method described above as an alternative method for forming the product.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Atty: Harry Smith on June 3, 2004 a provisional election was made with traverse to prosecute the invention of group I, claims 1-19 & 34-36. Affirmation of this election must be made by applicant in replying to this Office action. Claims 20-33 and 37-41 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

Claim 3 is objected to because of the following informalities: the phrase "sealing substance is used, the examiner believes that this is meant to say the "seeding substance". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11, 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Tarnopol et al. (US Patent No. 3,772,075).

Referring to claim 1, Tarnopol et al. discloses a method of forming a pattern on an article comprising the steps of applying a carrier material to a substrate to provide the pattern, the carrier material carrying a seeding substance to allow application of a metallic material thereto, molding the substrate to form the article and applying the metallic material to the seeding substance on the carrier material (column 3 lines 9-40, example 2).

Referring to claim 2, the carrier material is an ink and it is applied to the substrate by screen printing (column 10 lines 21-28).

Referring to claim 3, the ink incorporates a binder material for fixing the seeding substance on the substrate (column 10 lines 5-20).

Referring to claim 4, the substrate sags upon heating, this acts to stretch the substrate, the binder material is a resinous oil it would inherently be capable of stretching to the same extent as the substrate as it is a liquid and can form the shape of its container (column 10 lines 5-20).

Referring to claim 5, the binder material is a resinous screening oil such as pine oil, which is a rosin, or resinous material derived from pine trees (column 10 lines 5-20).

Referring to claim 6, the seeding substance comprises a plurality of metal particles in the carrier material (column 10 lines 5-20).

Referring to claims 7 and 8, the step of applying the metal material is an electroless deposition step (example 2).

Referring to claim 9, the particles are present in a range of 10 % by weight or less (column 10 lines 5-20).

Referring to claim 10 and 11, Tarnopol et al exemplifies particle weight percents in the range of 0.1 and 0.5 wt % (table 4).

Referring to claims 16 and 17 a thermoplastic plastic sheet is used during the metallization of the substrate. Accordingly the substrate comprises a thermoplastic plastic sheet (column 13 lines 37-56).

Referring to claim 18, the step of molding the substrate is carried out prior to applying the metallic material (example 2).

Referring to claim 19, the pattern is a line pattern to define electrical connections (figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tarponol et al..

Referring to claims 12-14, Tarponol discloses all of the features of these claims except it does not disclose the size of the particles it only discloses using a commercially available noble metal luster. However, the size of the particles determines the surface area of the particles per unit volume and smaller particles have more surface area per unit volume accordingly it would be desirable to use particles with high surface area per unit volume as there would be more active sites for seeding than with larger particles. Accordingly, the size of the particles it effects the amount of seeding material necessary. Therefore the size of the particles is a result effective parameter in that it effects the volume of seeding material necessary to form the coating. It would have been obvious to have adjusted the size of the particles to values in the claimed ranges through routine experimentation so as to minimize the volume of seeding material necessary, especially in the absence of a showing of a criticality for using values in the claimed ranges.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tarnopol in view of Aruga et al. (US Patent No. 4,778,507).

Referring to claim 15, Tarnopol et al. discloses all of the features of this claim as discussed above except it does not disclose using a press molding method. However, Aruga et al. teaches that it is well known to mold glass windshields for automobiles by pressing them especially when a deep bend is desired as it helps prevent optical distortion which occurs using the sagging method (column 1 lines 40-60, column 6 lines

18-23). Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tarponol et al. to use a pressing method in order to prevent optical distortion of the glass during a deep-bending of the glass as suggested by Aruga et al..

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard E. Abramowitz whose telephone number is 571-272-8557. The examiner can normally be reached on monday-friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HEA

MICHAEL CLEVELAND
PRIMARY EXAMINER